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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|--------------------------|---------------------|------------------|
| 09/919,772 | 07/31/2001 | Jeffrey Alexander Wilmer | K0476/7005 PCL | 4009 |
| 37462 | 7590 | 06/07/2004 | EXAMINER | |
| LOWRIE, LANDO & ANASTASI RIVERFRONT OFFICE ONE MAIN STREET, ELEVENTH FLOOR CAMBRIDGE, MA 02142 | | | SOOHO, TONY GLEN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1723 | |

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|---------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/919,772 | WILMER ET AL. |
| Examiner | Art Unit | |
| Tony G Soohoo | 1723 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 08 March 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,3,27 and 40-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,3,27 and 40-47 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 08 March 2004 is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

In light of the response filed March 08, 2004, the finality of the previous office action is hereby Withdrawn and a new office action is made below:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 27, and 40, 42, 44, 46 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hiroi 4621927 (previously cited).

Hiroi et al discloses the following:

A blending system (figs 2,6), and method comprising providing:

a first material supply line (3);

a second material supply line (1);

a mixer point at 5, where(13) it is fluidly connected downstream of the first and the second material supply lines to provide a blend of A and B thereby producing C; and

a process control system (figures 2,6) comprising a first flow control device (73, fig 6) positioned on the first material supply line 3 and a second material control device (75, fig 6) positioned on the second material supply line 1, a first flowmeter sensor (9, fig 2) and second sensor (7, fig 2) positioned on respective supply lines and producing respective signals F_b, F_a, and a single controller (Fig 2, and fig 6) comprising logic code to provide a control signal each of the flow control devices (73, 75, fig 6) based upon a the 1st and 2nd sensor signals F_b, F_a (fig 2) .

Thus, Hiroi teaches the use of a CPU to control a single control valve 27 in figure 2, and fully teaches the alternative of an embodiment whereby the CPU may be

configured to control two respective valves 73, 75 in response to the 1st and 2nd sensor measurements, as discussed in figure 6, column 9, lines 23-35

With regards to claim 3, note that a measurement of mass flow would measure and sense the density of material per rate of time. With regards to claims 40, 44, 46, also note the desire to provide a constant flow impedance with respect to the outflow at C, column 9, lines 30-35 thereby a constant volumetric flow.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 43, and 45 are rejected under are 35 U.S.C. 103(a) as obvious over of Hiroi 4621927.

5. Hiroi et al discloses all of the recited subject matter as defined within the scope of the claims with the exception of a third line with respective sensor and flow control device. Hiroi upon column 9, lines 53-55 teaches the desire that 3 or more fluids may be mixed. Accordingly, it is deemed that it would have been obvious to one of ordinary skill in the art to provide a duplication of flow lines with respective sensor, supply line, flow control, and respective signals into and out of the CPU for comparison so that additional fluids may be mixed together.

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6. Claims 41 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroi 4621927 as applied to claims 1 and 46 respectively, above, and further in view of Cadeo et al 4964732 (both previously cited).

The Hiroi reference discloses all of the recited subject matter as defined within the scope of the claims with the exception of provision a static mixer in the mixing area and the use of a static mixer in the system (claims 41, 47).

The reference to Cadeo et al teaches that a 1st material supply 1, and 2nd material supply 4 which is controlled by a sensor 10 feedback control to a valve 15 may have a static mixer assembly 13 in order to further mix the two fluid supplies for better homogenization of the flows together prior to a final sensing of the mixture at 18-20.

In view of the teaching by the Cadeo et al reference that a static mixer may be provided after the introduction of two source material flows together in order to provide a better mixing of flows, it is deemed that it would have been obvious to one of ordinary skill in the art to provide for the mixing area of the Hiroi reference device with a static mixer such as taught by the Cadeo et al reference located prior to the final mixture flow sensor signal 15 of Jones et al in order to provide a better mixing of the flows from together prior to the final sensing of the mixture by the final mass flow sensor.

Conclusion

Response to Arguments

7. Applicant's arguments with respect to newly amended claims 1, 3, 27, 40-47, have been considered but are moot in view of the new ground(s) of rejection. Whereby applicant has amended the claims directed to a new embodiment of figure 13 as is now

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newly amended into the application. Applicant attention is also directed to the previous document to Peltzer 5993671 whereby a single control device has respective sensors and controls upon each feed line.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony G Soohoo whose telephone number is (571) 272 1147. The examiner can normally be reached on 7:00 AM - 5:00 PM, Tues. - Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tony G. Soohoo
Primary Examiner
Art Unit 1723

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